

City Rhythm Research Updates



What is Rhythm?

“Rhythm is variation in repetition.”

Marli Huijer

“Rhythms can be defined as movements and differences in repetition.”

Henri Lefebvre

Different Types of Rhythms

Cyclical Movements + **Linear** Movements

Spatial Flows/Actions + **Temporal** Flows/Actions

Natural + Cultural

Repetition + Difference

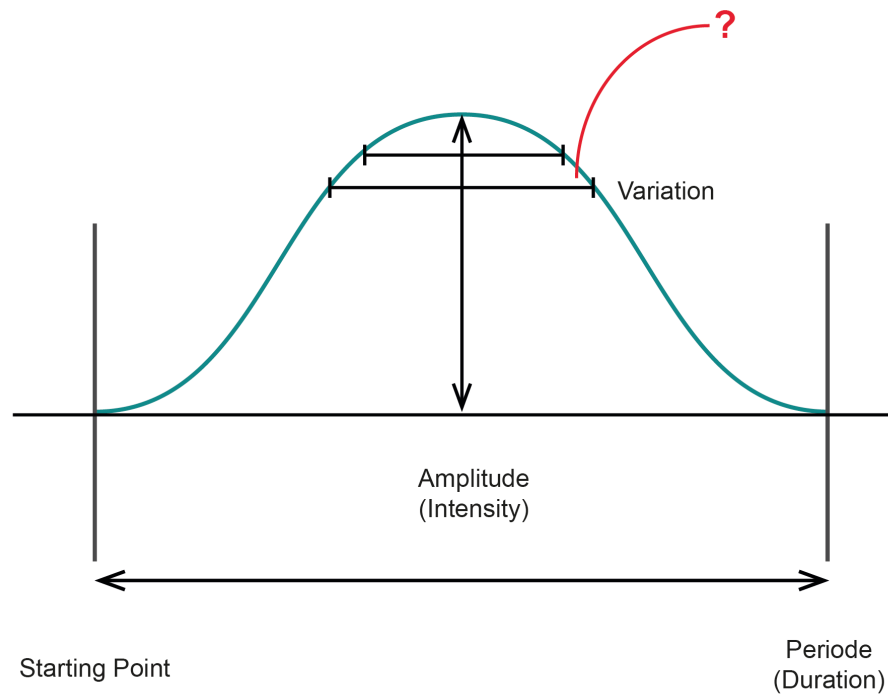
Mechanical + Organic

Discovery + Creation

Clock time + Cosmic time

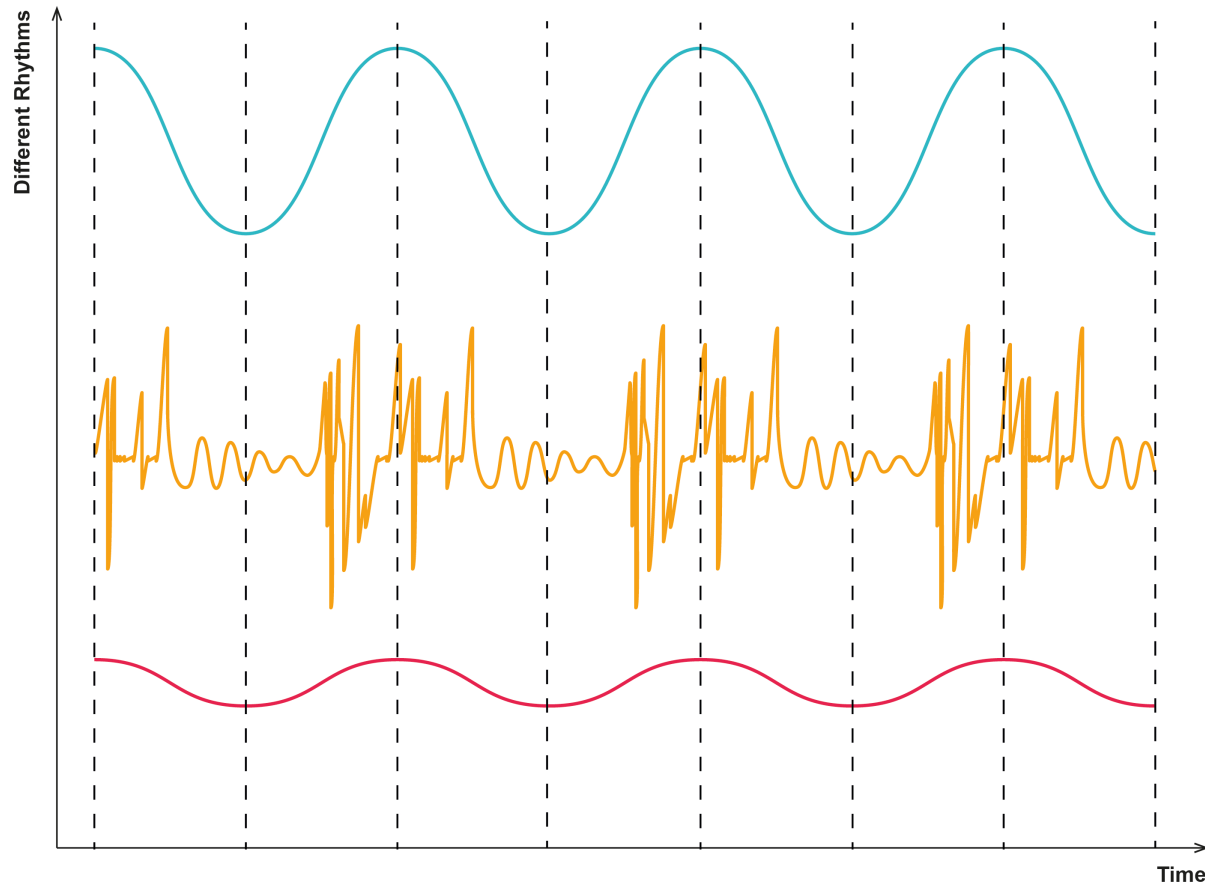
Rhythm Variation

Rhythm as a wave:
Where we can make policy



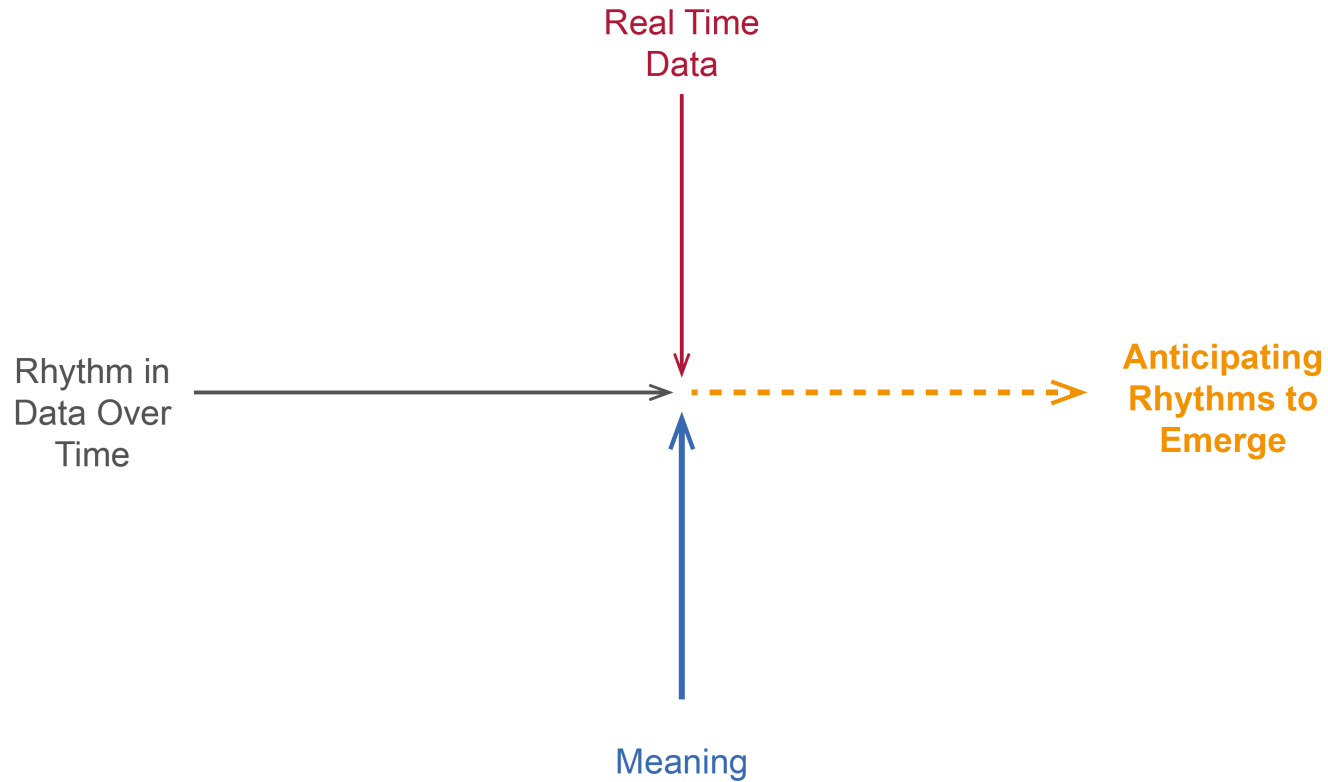
Rhythm Composition

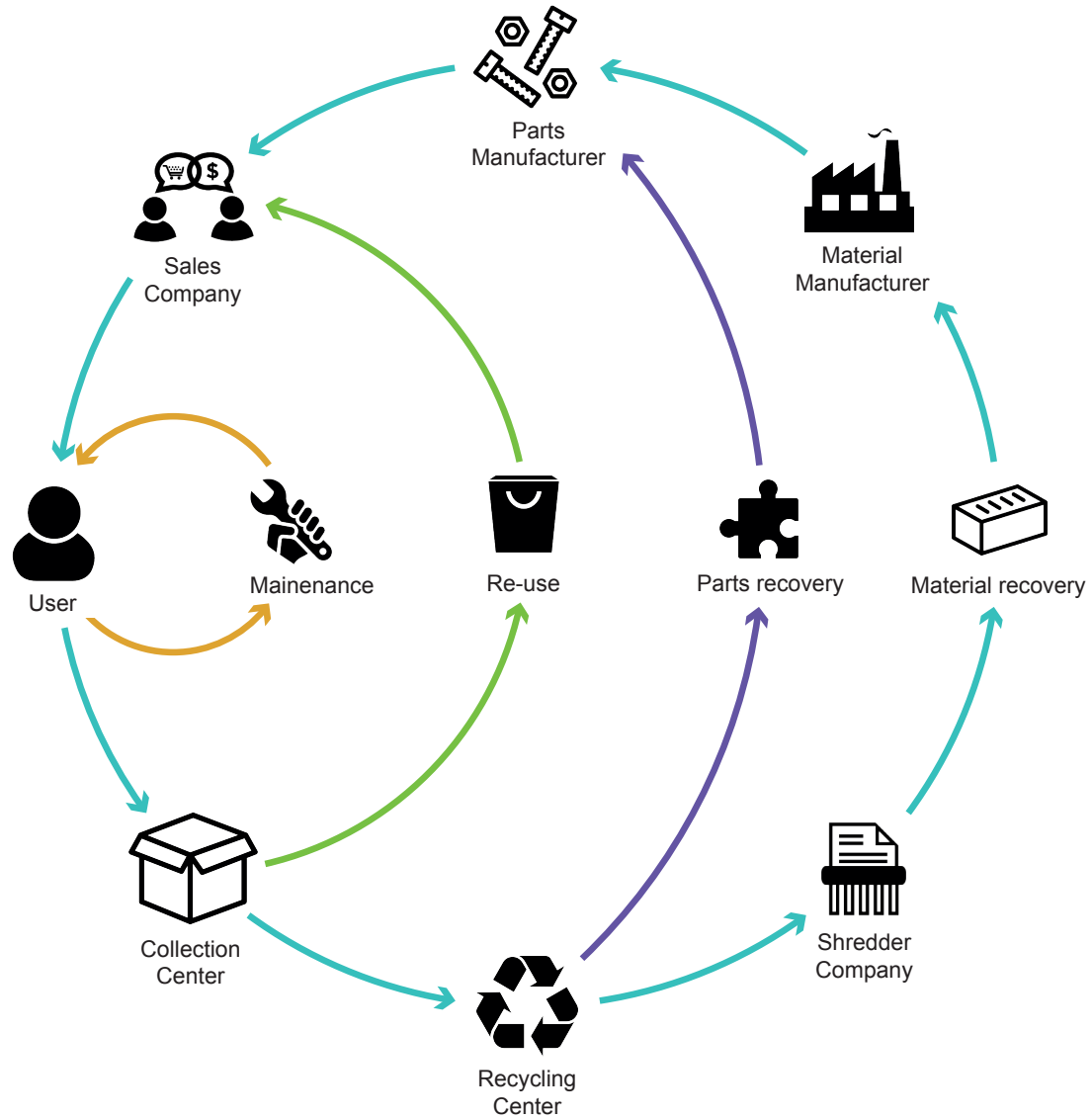
Rhythm as Composition: How do different rhythms effect each other

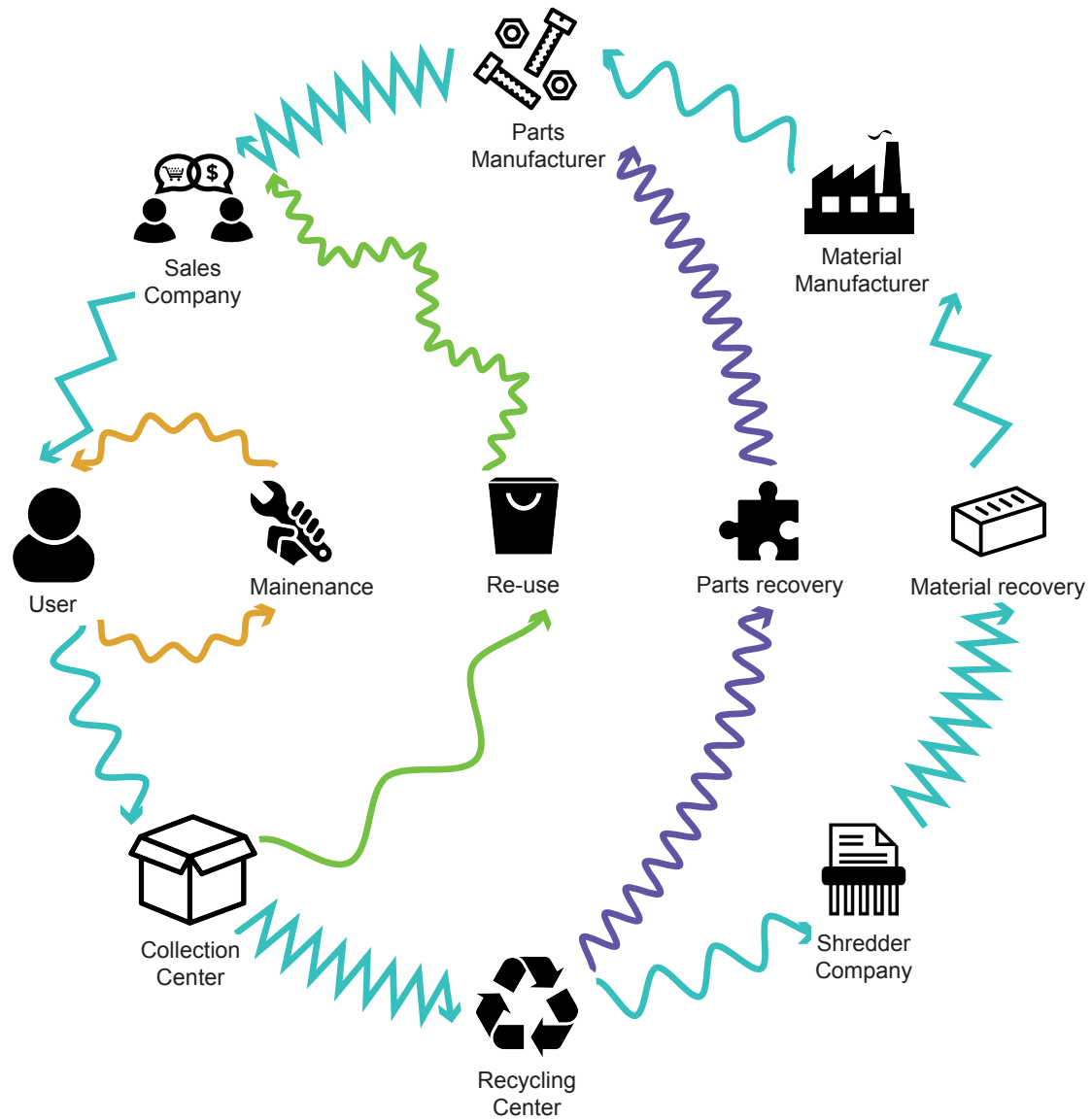


Rhythm Anticipation

Generating Futures







2/3 underway of City Rhythm

- Focus groups with Civil Servants about relation and gap between data and policymaking
- Municipalities and Student Project Groups explored rhythm analyses and interventions for solving different social problems in different neighborhoods. In the physical domain rhythm analyses contributes to 'design solution space'
- Making of concept for City Rhythm prototype
- Acquiring the data on server @TU Delft
- Sketching Data Rhythm Prototype

CIVIL SERVANTS: ANNETTE DE CROO, ANTOINE GRIBNAU, CHRIS DE VRIES, EDEN MESTRINI, FRANK DUT, GOOITSE MARSMAN, JONCO NIEMERMEER, HEDWIG MIESSEN, ISABELLA TONELLI, GANICE MILAN, JERREL DENIJN, JOLANDA BOSS, JOOST HOEDJES, KRISTIAAN SCHIPPERS, MART SPRUIJT, MATTHIJS VERSCHRAAGEN, MERREL HOEDFRAED, MIKE TEN BOSCH, NICOLETTE VAN DER SLOT, TAMAS KEKELÉNS, ROB POLHUIS, ROBER-JAN GENZER, SAMUEL KASPERIS, SANDRA ROB, SUZANNE VAN DEN BERGE, SUZANNE VINK, YOSHA KRAMER

DIGITALE STEDEN AGENDA: FATIHA ALITOU

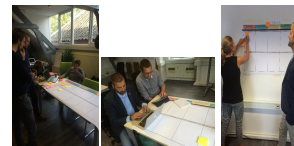


Current research: From Rhythm to Algorithm



Brainstorm Translating Social issues into rhythm, identifying data sets and understanding which social issues they shed light on

Dataset
Counting the recommended
Geo info
Dog-toe
Geo info (cycle paths, walking trails)
Pokemon players (Pokemon stops)
Pollster data (accidents)
CBS (number of cars/trucks)
Counting
Public transport, 5292
Counting how many people got off
RMSE
GSIM
GPS
TimeTone
count
GBR
Funda (sales + prices)
GBA
CBS open data
CBS, social status file
Social service
Municipality
Companies (info info7)



**How do data support policymaking today?
How can Rhythm Analyses help?**

- Focus on Open data
- No connection to policymaking
- Supply driven
- Target group is broad
- Resistance for privacy reasons

- Value of Data
- Good interpretation is central
- Data analyses supports understanding
- External and open connections
- Municipalities are now organizing themselves

Brainstorm on translating social issues into rhythm and identifying data sets that can be useful for the analysis



How does policymaking make use of data?

How can Rhythm Analyses help?

- Limited available data
- No data combinations
- Privacy prevents sharing
- No responsibility without policy document
- Too many thick reports

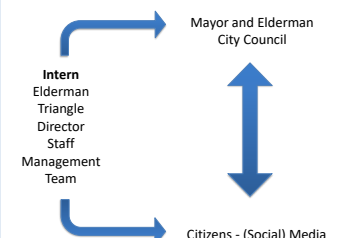
- Matching information municipality needs
- Control over different sources
- Sharing data
- Visualizations
- Anticipating new needs

City rhythm for understanding neighborhoods

How can more parties be involved in policy making?



How can the City Council and citizens be connected in a direct way in policy making?



Workshop Sirish Kumar January 2017

- Participants from Art, Design, Music (musicians and composer), Computer Science, Psychology Social Science, Biology, Architecture
- Thinking together, exploring nature of rhythm
- Transcript and film at <https://tudelft.openresearch.net/page/30117/rhythm-workshop-26-01-at-ams-institute>

Brainstorm with research team

- Division of tasks
- Design trajectory
- Confirming selection of datasets
- Different approaches to data

Invited Lecture @ EU Commission Road map for Big Data by Nevejan & Cunningham

- Concept very much appreciated
- Recognized as a way to share information without jeopardizing privacy
- Level of aggregation and time units of analyses
- Fourier analyses

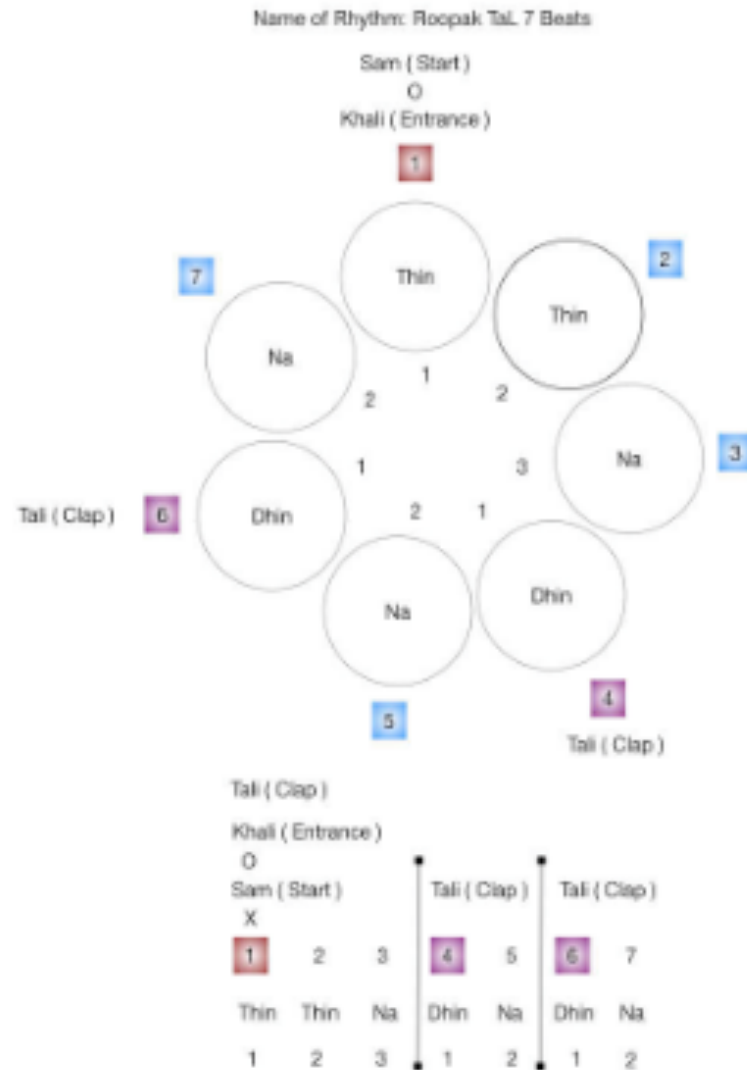
London:

Workshop to from rhythm to algorithm

Sirish Kumar, Scott Cunningham & Caroline
Nevejan

- Identifying rhythms
- Exploring the concept of “rhythm in rhythm”
- Exploring the concept of combining rhythms
- Digitizing rhythms
- Visualizing rhythms

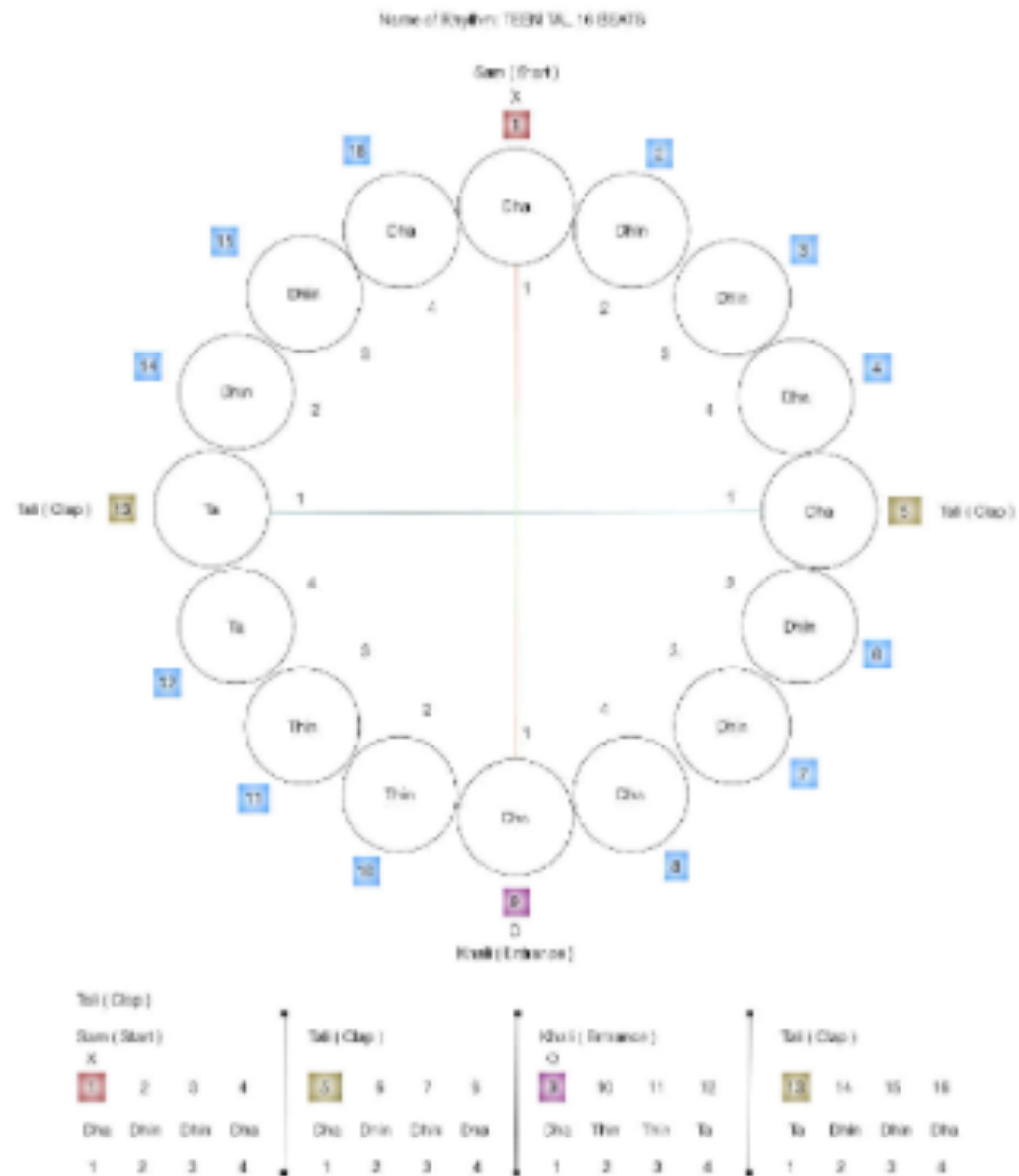
7 beat



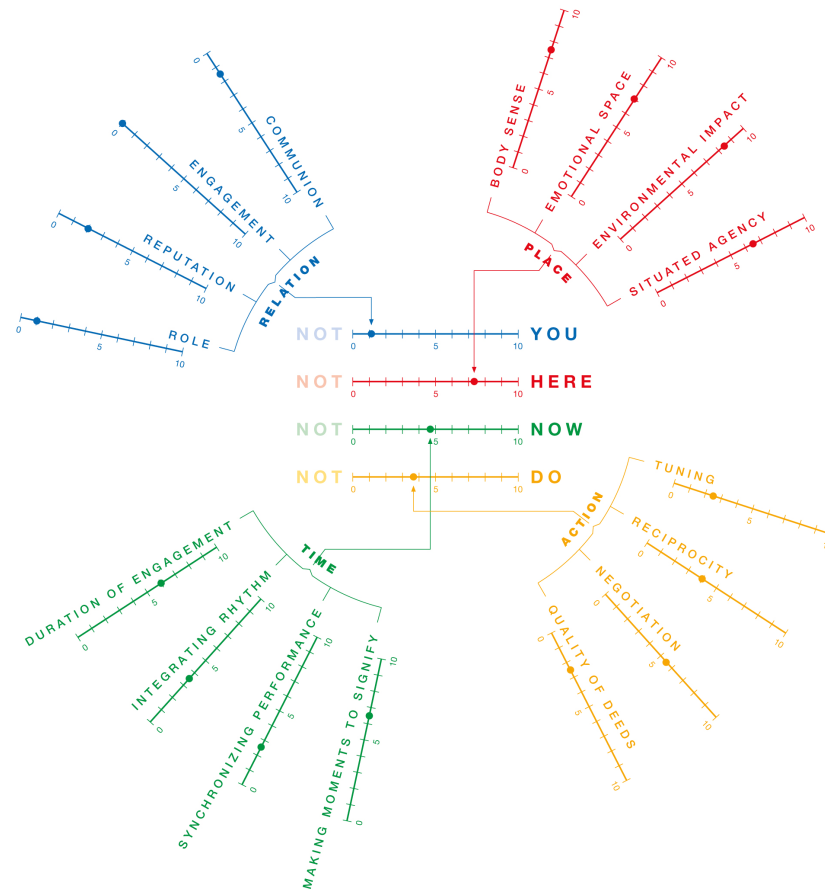
12 beat

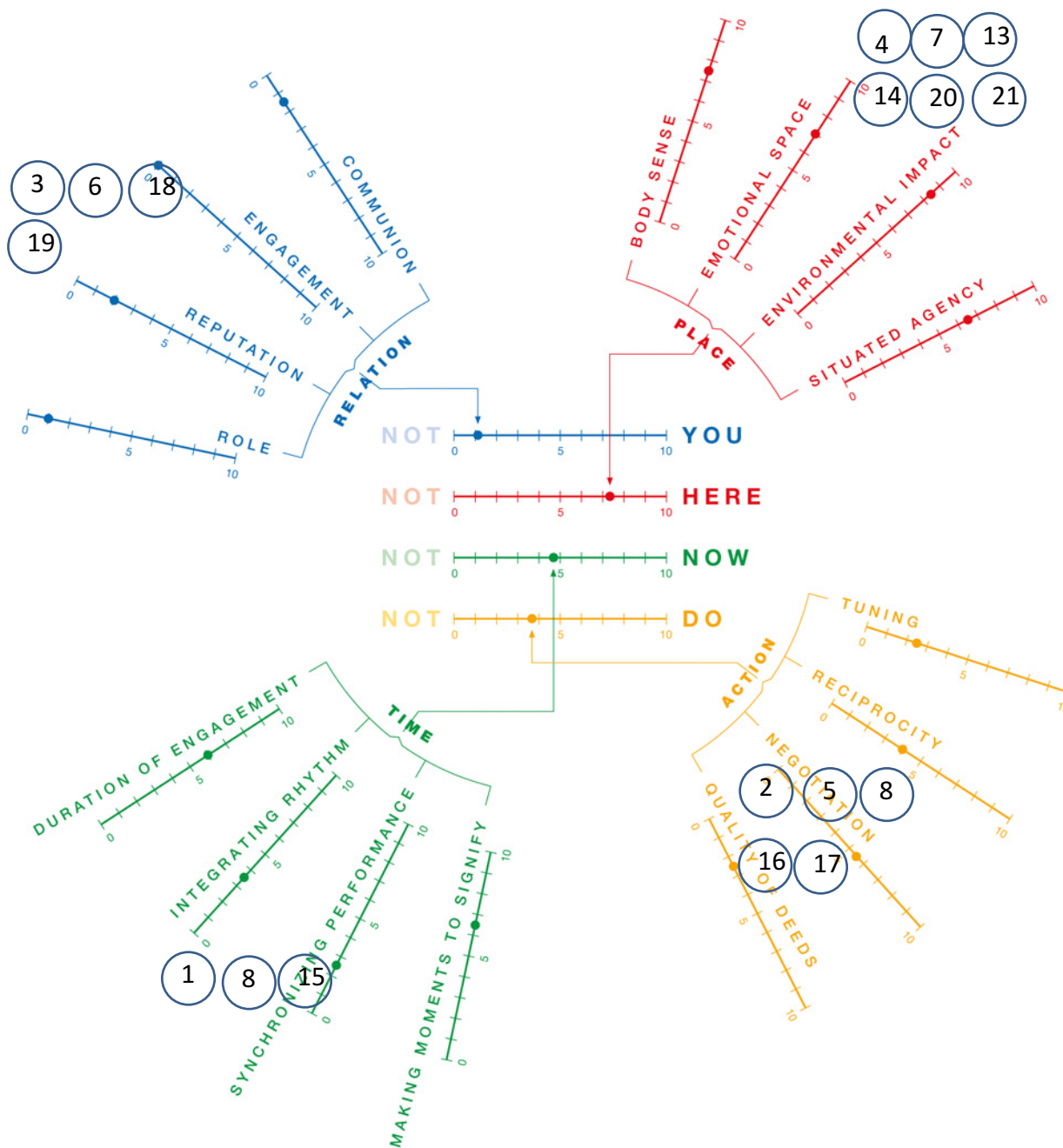


16 beat



Identification of Datasets in YUTPA Framework





1. Labour and social security
2. Enterprises
3. Population
4. Construction and dwellings
5. Financial and business services
6. Health and welfare
7. Trade, hotels and restaurants
8. Income and expenditure
9. International trade
10. Manufacturing industry and energy
11. Agriculture
12. Macroeconomics
13. Nature and environment
14. The Netherlands, regional
15. Education
16. Government and politics
17. Prices
18. System of Social Statistical Datasets
19. Security and justice
20. Traffic and transport
21. Leisure and culture

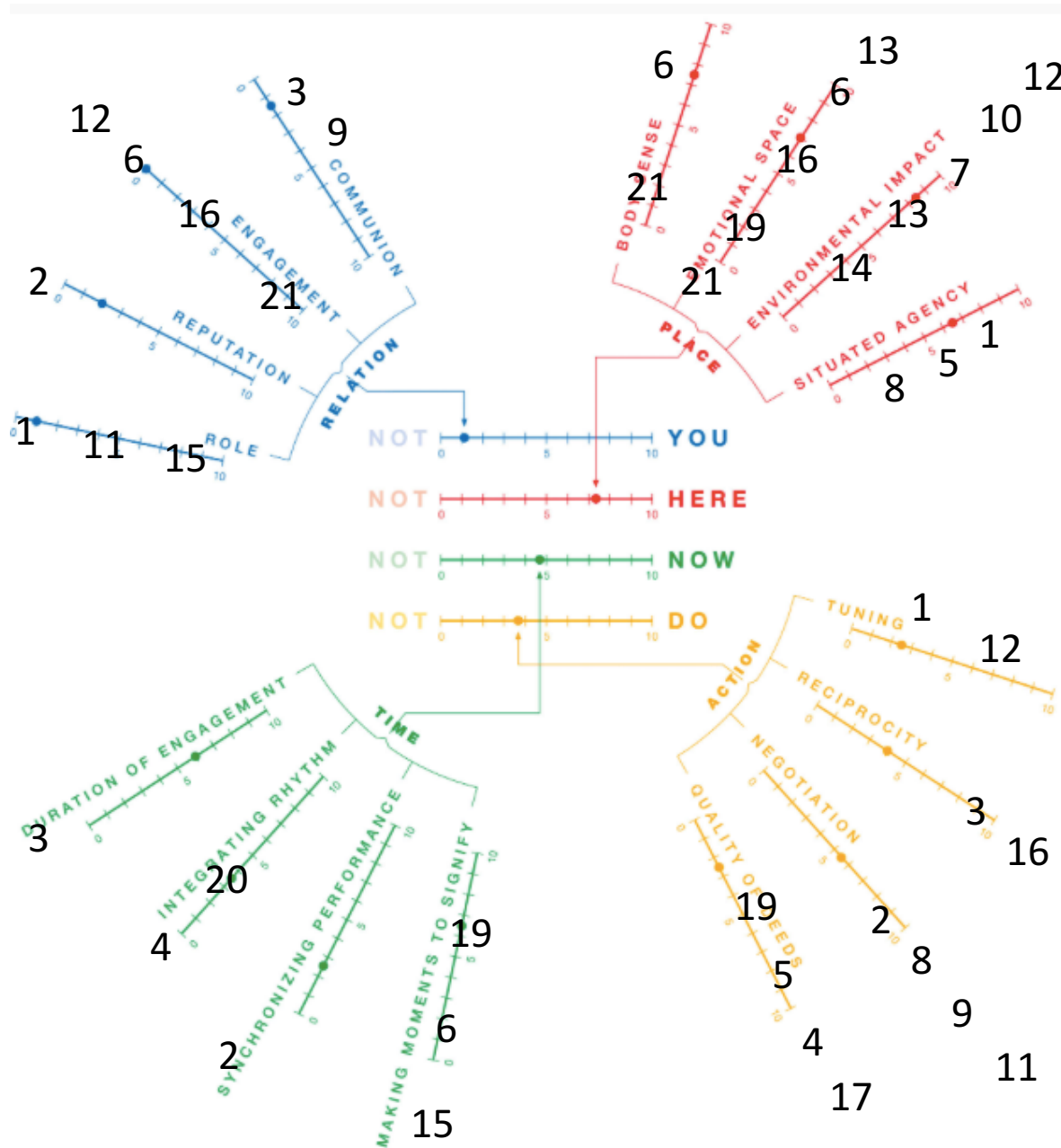
NOT RELEVANT

9 10 11



12

By Scott



1. Labour and social security
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NOT RELEVANT

The diagram illustrates the 10 Dimensions of the Place-You-Now-Do, organized into four quadrants around a central cross. Each dimension is represented by a scale from 0 to 10, with a dot indicating the current value.

- Top-Left Quadrant (Blue):** COMMUNION, ENGAGEMENT, REPUTATION, ROLE.
- Top-Right Quadrant (Red):** BODY SENSE, EMOTIONAL SPACE, ENVIRONMENTAL IMPACT, SITUATED AGENCY.
- Bottom-Left Quadrant (Green):** DURATION OF ENGAGEMENT, INTEGRATING RHYTHM, SYNCHRONIZING PERFORMANCE, MAKING MOMENTS TO SIGNIFY.
- Bottom-Right Quadrant (Orange):** TUNING, RECIPROCITY, NEGOTIATION, QUALITY OF DEEDS.

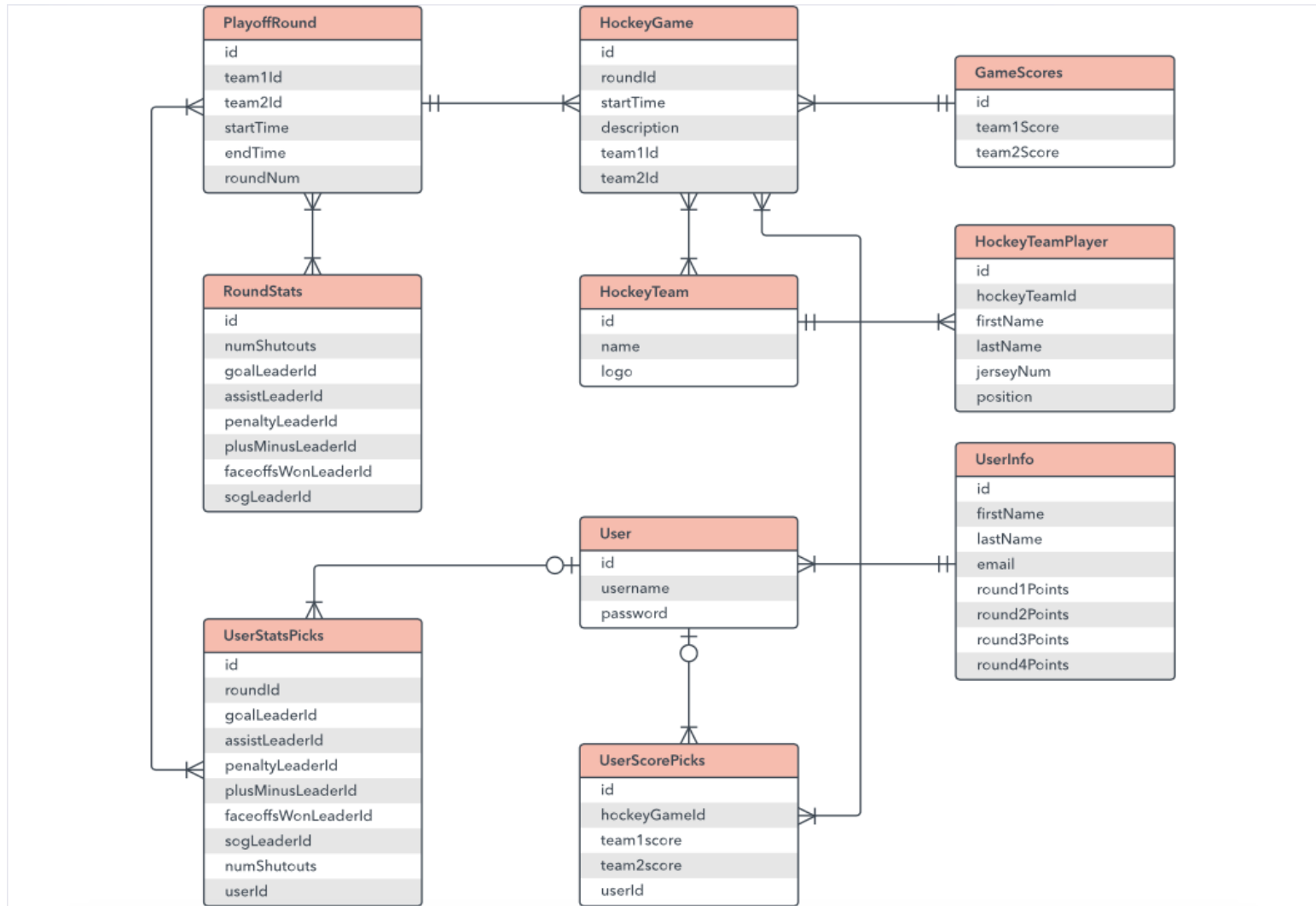
The central cross is labeled with the following dimensions:

- Top:** NOT YOU
- Right:** NOT HERE
- Bottom:** NOT NOW
- Left:** NOT DO

Blue arrows indicate a clockwise flow from the top-left to the bottom-right.

[illegible]

Entity-Relationship Diagram



Data on Content Level

- Micro data about households,
- Data about health conditions (sensitive information),
- Proximity data,
- Nature data (includes ground cover and species observations)

Gezondheid en welzijn

2017▼

Samenloop AWBZ en uitkeringen binnen huishoudens, 2014

Eigen betalingen zorg

Zorginstellingen; financiën en pers. methodebreuk 2015

Indicatoren kindsituatie naar herkomst

Sterfte onder kinderen en doodgeborenen

Moord en suïcide door middel van een vuurwapen

Ontwikkeling eigen bijdrage langdurig zorggebruikers

In- en uitstroom Wmo, 2015 en 1e halfjaar 2016

Kosten Wmo arrangementen 2015 en 1e halfjaar 2016

Voorlopige financiële kengetallen V en V 2015

Kwartaalcijfers overledenen wegvervoersongeval

Data on Structural Level

- Spatial data: organized by municipal structures (wijken and buurten) or geographically in grid system.
- We want to work with both. There are coordinate reference systems, geo info systems. This is important for doing the projection of the map.

Acquisition of data

CBS & Natuur.nl

1. Formulating question
2. Identifying which datasets
3. Identifying which scale of aggregation
4. Offertes
5. Negotiation
6. Agreement
7. Signing contracts (checking with contract departments)

Getting the CBS data

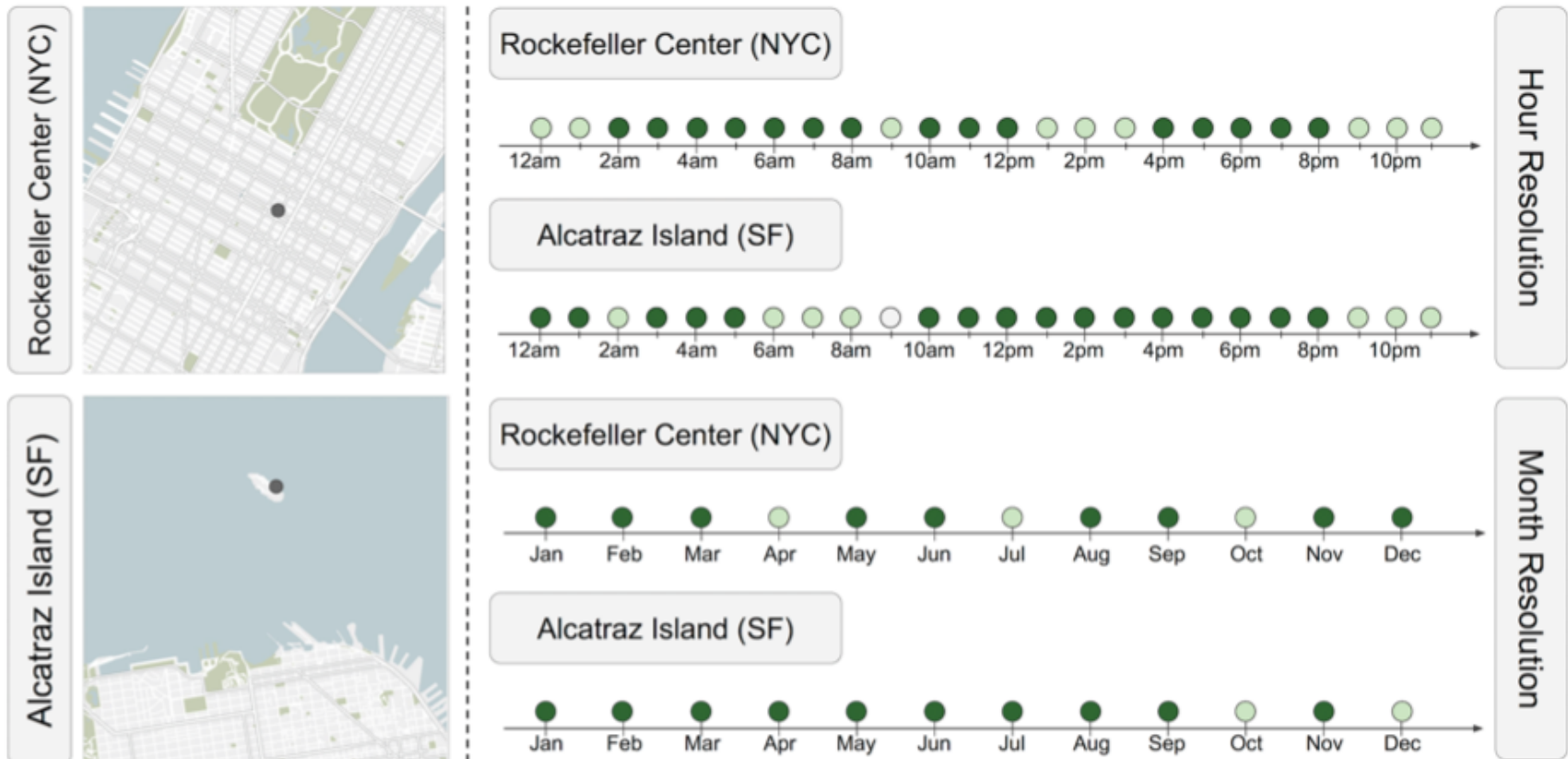
1. Set up for Scott
2. Training Scott
3. Technical installation
4. Sending files
5. Deconstructing files

Scott Cunningham's Involvement

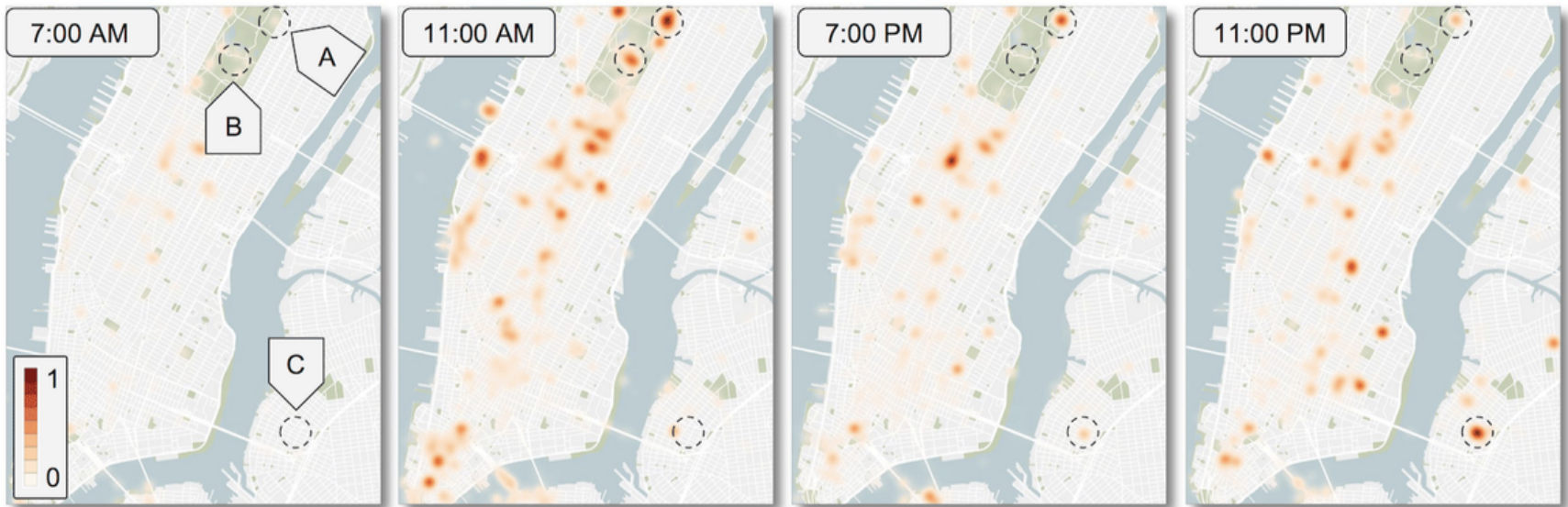
- Data awareness and cryptographic key: Scott's only allowed to use the data
- Hands on training on data awareness and remote environment in Data Kamp: a nice opportunity to talk at Den Haag about the urban character of the city and different needs by districts from urban poverty and other social issues

A Working System Impression

(Urban Pulse: Capturing the Rhythm of Cities)



A Working System Impression



New Research Proposal NWO: Smart Culture - Big Data / Digital Humanities

1 juni 2017

<http://www.nwo.nl/en/funding/our-funding-instruments/sgw/smart-culture---big-data---digital-humanities/smart-culture---big-data---digital-humanities.html>

Senior researchers can apply for funding on behalf of consortia, consisting of at least two researchers from different faculties (and/or knowledge institutions) and at least one private partner, for research projects focused on research at the intersection of Big Data and Digital Humanities in relation to the creative industries.

Purpose

With this call NWO aims at funding proposals that contribute to the development of research in the field of creative industries and Big Data while boosting the research in the field of Digital Humanities. The research programme is therefore not only part of the top sector Creative Industry (via CLICKNL) and [the Smart Culture domain \(in Dutch\)](#) but also of the ecosystem of [Commit2Data](#).

Preconditions for research proposals

Research proposals must:

contain a clear ICT research component or focus on the development of new digital methods
aim at answering a humanities research question
relate to different types of data and / or different types of sources

Applicants will be asked to explain why the proposed project will be able to contribute to the Big Data agenda.

Publications

- Academic paper
- Publication for municipalities
- Other Publication
- ??????

2 workshops

